What is claimed is:

1. A system for detecting water vapor in natural gas comprising:

a light source emitting light at a frequency where water molecules absorb light at a substantially greater level than natural gas molecules;

a detector configured to detect the intensity of light from emitted from said light source; and

electronics coupled to said detector for determining the level of water vapor in the natural gas and the level of water vapor in the natural gas.

2. The system of claim 1 wherein said light source is a tunable diode laser.

3. The system of claim 1 wherein said light source is color center laser.

4. The system of claim 1 wherein said light source is a quantum cascade laser.

5. The system of claim 1 wherein said detector is an InGaAs detector.

6. The system of claim 1 further comprising calibration means for calibrating the sensor relative to a known concentration of water vapor within the natural gas.

7. The system of claim 1 wherein the laser operates at a wavelength within the range of 1.877 - 1.901 μm.

8. The system of claim 1 wherein the laser operates at a wavelength within the range of 2.711 – 2.786 μm.

9. The system of claim 1 wherein the laser operates at a wavelength within the range of 920 to 960 nm.

10. A method for determining the level of water in natural gas comprising the steps of:

generating light at a frequency where water molecules absorb light at a substantially greater level than natural gas molecules;

passing the generated light through a sample of natural gas;

detecting the light passed through the natural gas; and

determining the level of water within the natural gas based on the level of detected light.

11. The method of claim 10 wherein the generated light has a wavelength in the range of one of the group comprising: 1.877 – 1.901μm, 2.711 – 2.786 μm, and 920 – 960 nm.

12. A system for detecting water vapor in natural gas in a pipeline comprising:

a sampling shelter;

at least one optical gas sensor housed within said sampling shelter

a supply line coupled to the pipeline and said optical gas sensor for supplying natural gas to said optical gas sensor; and

whereas said optical gas sensor comprises:

a Herriot cell having two opposing mirrors;

a light source emitting light at a frequency where water molecules absorb light at a substantially greater level than natural gas molecules through said Herriot cell and configured to reflect off the mirrors to pass through the natural gas at least two times;

a detector configured to detect the intensity of light emitted from said light source after the light reflects off the mirrors at least two times; and

electronics coupled to said detector for determining the level of water vapor in the natural gas.

13. A system for detecting water vapor in natural gas comprising:

optical means for emitting light at a frequency where water molecules absorb light at a substantially greater level than natural gas molecules;

detection means for detecting the intensity of light from emitted from said light source; and

a determination unit coupled to said detector for determining the level of water vapor in the natural gas and the level of water vapor in the natural gas.